

REMARKS

I. Status of the Claims

The Office Action Summary sheet of the Action mailed July 25, 2005, indicates that only 1 claim is pending in the application. For the record, Applicants note that claim 1 is the elected claim in view of the Examiner's restriction requirement. Although claims 2-5 are drawn to a non-elected invention the claims have not been canceled and are therefore still pending in the application.

Claims 6 and 7 are added herein as new claims. Support is found, for example, at page 4, lines 4-6 and page 5, lines 17-19 of the specification. No new matter is presented.

Accordingly, upon entry of the Amendment, claims 1-7 will be all of the claims pending in the application. Claims 1 and 6-7 are before the Examiner for examination and claims 2-5 are withdrawn as being drawn to a non-elected invention.

II. Information Disclosure Statement

The Examiner has not returned an initialed copy of the PTO/SB/08 Form filed with the Information Disclosure Statement (IDS) on January 8, 2004. Applicants respectfully request the Examiner to return an initialed copy of the form with the next response.

III. Election/Restriction

Applicants respectfully submit that claim 2 is a linking claim as defined in MPEP § 809.03, which is directed to the necessary process of making the claimed semiconductor device,

thereby linking the product claim and the process claims. Therefore, Applicants request that claim 2 be examined with claim 1 in accordance with MPEP § 809.03. Applicants further request rejoinder of the process claims 2-5, upon allowance of the product claims 1 and 6-7 and/or linking claim 2. See also MPEP § 821.04 regarding rejoinder of method claims.

IV. Response to Claim Rejection- 35 U.S.C. § 102

Claim 1 is rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Igarashi (US Patent 5,990,546). The Examiner primarily relies on Figure 1(A) of Igarashi.

Applicants respectfully traverse the rejection and submit that Igarashi does not disclose all elements of the claimed invention.

Independent claim 1 recites a semiconductor device which comprises a substrate and a semiconductor element mounted thereon through a bump bonding part, wherein the semiconductor element has been encapsulated by coating the back and the edges of the semiconductor element with a thermosetting sheet material having tackiness.

The Examiner asserts that Igarashi discloses a semiconductor device in Fig. 1(A), which comprises a substrate 25 and a semiconductor element 1 mounted thereon through a bump bonding part 211, wherein the semiconductor element has been encapsulated by coating the back and the edges of the semiconductor element with a thermosetting sheet material 3 having tackiness. However, resin 3 of Figure 1(A) is explained at lines 35-36 of column 6 and it is described that resin sealing can be carried out using transfer molding, potting, casting, etc. These process do not involve a thermosetting sheet material having tackiness. As disclosed in the present specification, these processes involve liquid resins. See, e.g., page 1, line 19 to

page 2, line 14. Therefore, Figure 1(A) does not disclose, teach or suggest (1) a sheet material, (2) thermosetting resin, (3) tackiness of the sheet. Further, it is disclosed that the sheet material of the present invention can be handled more easily than liquid resins. Thus, the present invention is different from that of Igarashi and is not anticipated by Igarashi.

Applicants further note that in the description of Figures 5(A) and 5(B) at lines 15-25 of column 7, it is described that "the transverse edge and back face of the semiconductor chip 1 are sealed" However, the sealing in Figure 5 is carried out using a silicon resin 32. Thus, sealing with a sheet material is not taught or suggested by Igarashi.

With respect to Figure 5(B), it is described that the sealing is carried out by bonding of a bonding seat [sic] 33, (e.g., using epoxy-rubber resin as bonding agent). From this description, one of ordinary skill in the art would recognize that the sheet is bonded using a bonding agent and therefore the sheet itself does not necessarily have tackiness. Moreover, a thermosetting resin is not taught or suggested.

Further, by combining the features of (1) a sheet material, (2) thermosetting resin and (3) tackiness of the sheet, the present invention provides superior effects that, even if the sheet is once attached, the sheet can be removed and attached again, so that good handling properties can be achieved. Then, sealing can be affected by allowing the sheet to undergo thermosetting. One of ordinary skill in the art would not have had a reasonable expectation of success in achieving the claimed invention based on Igarashi. Therefore, the claimed invention is not rendered obvious by Igarashi.

In view of the above, the claimed invention is neither anticipated, nor rendered obvious by Igarashi. New claims 6 and 7 depend from claim 1 and are distinguished over the art for at least the same reasons.

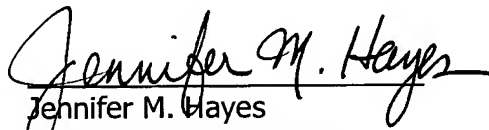
Accordingly, Applicants respectfully request withdrawal of the rejection.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


Jennifer M. Hayes
Registration No. 40,641

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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